NEHA SUNIL

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EDUCATION

MIT
PhD in Mechanical Engineering
Minor: Machine Learning
2021 - | Cambridge, MA

MIT
MS in Mechanical Engineering
2019 - 2021 | Cambridge, MA

CALTECH
BS in Mechanical Engineering
2015 - 2019 | Pasadena, CA
GPA: 3.9/4.0

COURSEWORK

GRADUATE
Machine Learning
Bayesian Inference and Modeling
Intelligent Robotic Manipulation
Underactuated Robotics
Analysis/Design of Feedback Control
Precision Product Design
Dynamics

UNDERGRADUATE
Capstone Design Contest
Robotics & Autonomy
Experimental Robotics
Multidisciplinary Systems Eng.
Mechatronics
Biotechnology Lab
Microfabrication Lab
Nanorobotics
Information and Logic
Experiments & Modeling in MechE
(Teaching Asst 2x)

SKILLS

PROGRAMMING
Python • Java • C • C++
Matlab • R • Mathematica
HTML • CSS • VB • LaTeX

ROBOTICS
ROS • Drake • Simulink
OpenCV • Blender
Raspberry Pi • Arduino
UR5 • ABB YuMi • GelSight

ENGINEERING
CAD: Solidworks • Onshape
CFD/FEA: Ansys • COMSOL

RESEARCH

MIT MCube Lab, Research Assistant | 2019 -
Advisor: Alberto Rodriguez
Developing reactive systems for deformable object manipulation (e.g. cables and cloth) using visuotactile perception

CALTECH Undergraduate Researcher | 2018 - 2019
Advisors: Chiara Daraio and Aaron Ames
Designed a flexible and inexpensive pressure sensor to determine the real-time center of pressure for walking robots

STANFORD Student Researcher | 2014
Advisor: Anshul Kundaje
Developed a library in R to choose DNA regions for CRISPR-Cas9 gene editing technology

INDUSTRY

VERB SURGICAL Mechanical Engineering Intern | Summer 2018
Google and J&J robotic surgery partnership | Mountain View, CA
Worked with team interfacing between arm and surgical tool
Experience in design, sensors, and controls

KRAENION Robotics Intern | December 2017, 2018
Startup developing applied computer vision solutions | Los Gatos, CA
- 2017: Prepared forklift prototype to demo stereo vision technology
- 2018: Sensor integration for autonomous wheelchair

NIMA LABS Mechanical Engineering Intern | Summers 2016, 2017
Portable food allergen sensor startup | San Francisco, CA
- 2016: Tested multi-channel version of consumer device and isolated key variables affecting chemistry development and camera readings
- 2017: Redesigned multi-channel device from scratch. Created manufacturing and assembly drawings and worked with vendors

SELECTED PUBLICATIONS

[1] Y. She*, S. Wang*, S. Dong*, N. Sunil, A. Rodriguez, and E. Adelson. Cable manipulation with a tactile reactive gripper. *The International Journal of Robotics Research (IJRR)*, 2021. **RSS'20 Best Paper Award Finalist**.

[2] N. Sunil, S. Wang, Y. She, E. Adelson, and A. Rodriguez. Visuotactile affordances for cloth manipulation with local control. *CoRL, 2022*, Under Review.

ACHIEVEMENTS & SERVICE

2020 RSS Best Paper Award Finalist
2019 Co-founded Graduate Women in Robotics Community (GWiRC) at MIT
2019 NSF Graduate Research Fellowship
2019 MIT Linden/Wong Departmental Fellowship
2019 Paul & Daisy Soros Fellowship Finalist
2019 Caltech Mechanical Engineering Award
2018 Tau Beta Pi Engineering Honor Society
2011 Certified Yoga Instructor